

WHAT IS CLAIMED IS:

- 1) An exercise apparatus comprising:
 - a first rigid frame assembly;
 - a second selectively rotatable frame assembly which is coupled to said first rigid frame assembly;
 - a seat portion which is coupled to said second selectively rotatable frame assembly;
 - a pair of independent and selectively rotatable handle portions; and
- 10 a pair of high tension cables, wherein a movement of a first handle of said pair of handles causes said seat portion to rotate in a first direction, and wherein a movement of a second handle causes said seat portion to rotate in a second direction.
- 15 2) The apparatus of Claim 1 wherein said second selectively rotatable frame assembly comprises:
 - a first selectively rotatable center beam having a first wide end, a second narrow end, and a plurality of through apertures which traverse through said first selectively rotatable center beam;
 - a second selectively rotatable center beam having a first wide end, a second narrow end, and a plurality of through apertures which traverse through said second selectively rotatable center beam, wherein said first wide

end of said first center beam is movably and frictionally received by said second narrow end of said second selectively rotatable center beam; and

at least one third selectively rotatable center beam
5 having a first wide end and a second generally spoon shaped second end, wherein said first wide end of said second center beam is movably and frictionally received by said first wide end of said at least one third selectively rotatable center beam.

10 3) The apparatus of Claim 2 further comprising a generally triangular base portion having a channel of a certain diameter, wherein said channel includes at least one bearing assembly, and wherein said channel and said at least one bearing assembly receive said second narrow end
15 of said first selectively rotatable center beam.

4) The apparatus of Claim 3 wherein said second selectively rotatable beam further includes a collar portion which is generally triangular in shape, and which receives and supports a user's feet.

20 5) The apparatus of Claim 4 wherein said first and said second selectively rotatable center beams further include a respective pin member, each of which may be disposed within and through a respective one of said plurality of through apertures, thereby allowing said first and said second

selectively rotatable center beams to be selectively adjustable to a plurality of lengths.

6) The apparatus of Claim 5 wherein said at least one third selectively rotatable center beam further includes:

5 a first ergonomically contoured foot pad which is disposed upon a first side of said at least one third selectively rotatable center beam and in close proximity to said collar portion;

10 a second ergonomically contoured foot pad which is disposed upon a second side of said at least one third selectively rotatable center beam and in close proximity to said collar portion;

15 a first selectively movable ergonomically contoured Achilles' pad which is disposed upon said first side of said at least one third selectively rotatable center beam and in close proximity to said first ergonomically contoured foot pad; and

20 a second selectively movable ergonomically contoured Achilles' pad which is disposed upon said second side of said at least one third selectively rotatable center beam and in close proximity to said second ergonomically contoured foot pad.

7) The apparatus of Claim 6 wherein said at least one third selectively rotatable center beam further includes a

generally arcuate and ergonomically contoured buttocks pad which is disposed upon said generally spoon shaped second end of said at least one third selectively rotatable center beam.

5 8) The apparatus of claim 7 wherein said first rigid frame assembly includes:

a first side frame rail;

a second side frame rail which is generally parallel to said first side frame rail;

10 a top frame rail which is perpendicular to said first and said second side frame rails, and which is fixedly coupled to said first and said second side frame rails;

a first pair of support pillars, each of which are coupled to a respective one of said first and said second 15 side frame rails;

a second pair of support pillars, each of which are coupled to a respective one of said first and said second side frame rails; and

20 a fixed center beam which is coupled to said first and said second pair of support pillars, said fixed center beam having a first end and a second end.

9) The apparatus of Claim 8 wherein said fixed center beam includes:

a first sleeve which is coupled to said second end of said fixed center beam, and which movably receives said at least one third selectively rotatable center beam;

5 an ergonomically contoured back pad which is coupled to said fixed center beam;

an ergonomically contoured head pad which is coupled to said fixed center beam; and

10 an axle portion which is generally perpendicular to said fixed center beam, and which is fixedly coupled to said first end of said fixed center beam, said axle having a first side and a second side.

10) The apparatus of Claim 9 wherein said fixed center beam further includes a first through aperture and a second through aperture, and wherein said head pad includes:

15 a pivot and guide bracket which is coupled to a back side of said head pad;

at least one generally arcuate projection which is integrally formed with said pivot and guide bracket, said at least one generally arcuate projection including an 20 aperture therethrough;

at least one guide projection which is integrally formed with said pivot and guide bracket, said at least one guide projection including a plurality of through apertures;

a first pin which is disposed through said aperture of said at least one generally arcuate projection and through said first aperture of said fixed center beam; and

5 a second pin which is disposed through one of said plurality of apertures of said at least one guide projection and through said second aperture of said fixed center beam, effective to allow said head rest to be selectively inclinable.

11) The apparatus of Claim 9 further comprising a swing 10 arm pillar which is movably coupled to said fixed center beam at a first end, said swing arm pillar further including a second end having a second sleeve portion which movably receives said at least one third selectively rotatable center beam.

15 12) The apparatus of Claim 11 wherein said second pair of support pillars include:

a first ergonomically contoured thigh pad which is coupled to a first of said second pair of support pillars; and

20 a second ergonomically contoured thigh pad which is coupled to a second of said second pair of support pillars.

13) The apparatus of Claim 12 wherein said axle portion includes:

a first shock absorption joint having a first aperture therethrough, said first side of said axle portion receiving said first shock absorption joint through said first aperture;

5 a second shock absorption joint having a second aperture therethrough, said second side of said axle portion receiving said second shock absorption joint through said second aperture;

10 a first generally rectangular arm frame which is movably coupled to said first shock absorption joint, said first arm frame having a first selectively adjustable elbow sling; and

15 a second generally rectangular arm frame which is movably coupled to said second shock absorption joint, said second arm frame having a second selectively adjustable elbow sling.

14) The apparatus of Claim 13 wherein said first and second shock absorption joints each include:

20 a first extension arm having a first end and a second end, wherein said first end is coupled to said arm frames, and wherein said second end is coupled to said shock absorption joints; and

a second extension arm having a first end, a second end, and a plurality of through apertures, wherein said

first end is coupled to said shock absorption joints, and wherein said pair of high tension cables are each coupled to a respective one of said second extension arms through one of said plurality of apertures of said second extension arms.

15) The apparatus of Claim 14 further comprising a pair of actuation assemblies which are coupled to said rigid frame and to said first selectively rotatable center beam.

16) The apparatus of Claim 15 wherein a first of said pair of actuation assemblies is disposed on a first side of said first selectively rotatable center beam, and wherein a second of said pair of actuation assemblies is disposed on a second side of said first selectively rotatable center beam.

15 17) The apparatus of Claim 16 wherein said pair of actuation assemblies each comprise double cardan joints having a center pin which is connected to a respective one of said pair of high tension cables.

18) The apparatus of Claim 17 wherein said buttocks pad further includes:

a first selectively adjustable support strap having a first attachment assembly, wherein said first selectively adjustable support strap is coupled to and around said

buttocks pad and is sized to circumscribe a user's waist; and

at least one second selectively adjustable support strap having a second attachment assembly which is substantially identical to said first attachment assembly, wherein said at least one second selectively adjustable support strap is coupled to and around said buttocks pad and is sized to circumscribe at least one of a user's thighs.

10 19) The apparatus of Claim 18 wherein said first and said second arm frames each include:

a first pair of opposing channels which receive a respective end of said elbow slings;

a second pair of opposing channels;

15 a pair of selectively adjustable wrist pads having a first padded side and a second side having a threaded aperture, wherein each of said pair of second channels receives a respective one of said pair of wrist pads; and

20 a pair of threaded posts, each of which are coupled to a respective one of said wrist pads through a respective one of said second pair of channels and into said second side.

20) The apparatus of Claim 19 wherein said first handle portion is disposed within said first generally rectangular

arm frame, and wherein said second handle portion is disposed within said second generally rectangular arm frame.

21) An exercise apparatus comprising:

5 a frame assembly having a first side frame rail, a second side frame rail, a top frame rail, a bottom frame rail, a first pair of support pillars, and a second pair of support pillars;

10 a generally triangular base assembly having a channel of a first diameter, said channel including at least one bearing;

15 at least one selectively rotatable center beam which is rotatably disposed within said reception portion;

20 a fixed center beam having a first end and a second end;

25 an axle which is coupled to said fixed center beam such that said center beam is perpendicular to said axle;

30 a pair of joints which are coupled to said at least one selectively rotatable center beam;

35 a pair of substantially identical arm frames which are each rotatably mounted upon said axle; and

40 a pair of substantially identical high tension cables which are each respectively coupled to one of said pair of frame arms and to one of said pair of joints, wherein a

movement of a first arm frame of said pair of arm frames causes said at least one selectively rotatable center beam to rotate in a first direction, and wherein a movement of a second arm frame of said pair of arm frames causes said at least one selectively rotatable center beam to rotate in a second direction.

22) The apparatus of Claim 21 wherein said at least one selectively rotatable center beam further comprises:

a first selectively rotatable center beam having a first wide end, a second narrow end, and a plurality of through apertures which traverse through said first selectively rotatable center beam;

a second selectively rotatable center beam having a first wide end, a second narrow end, and a plurality of through apertures which traverse through said second selectively rotatable center beam, wherein said first wide end of said first center beam is movably and frictionally received by said second narrow end of said second selectively rotatable center beam; and

at least one third selectively rotatable center beam having a first wide end and a second generally spoon shaped second end, wherein said first wide end of said second center beam is movably and frictionally received by said

first wide end of said at least one third selectively rotatable center beam.

23) The apparatus of Claim 22 wherein said channel and said at least one bearing assembly rotatably receive said 5 second narrow end of said first selectively rotatable center beam.

24) The apparatus of Claim 23 wherein said second selectively rotatable beam further includes a collar portion which is generally triangular in shape, and which 10 receives and supports a user's feet.

25) The apparatus of Claim 24 wherein said first and said second selectively rotatable center beams further include a respective pin member, each of which may be disposed within and through a respective one of said plurality of through 15 apertures, thereby allowing said first and said second selectively rotatable center beams to be selectively adjustable to a plurality of lengths.

26) The apparatus of Claim 25 wherein said at least one third selectively rotatable center beam further includes:

20 a first ergonomically contoured foot pad which is disposed upon a first side of said at least one third selectively rotatable center beam and in close proximity to said collar portion;

a second ergonomically contoured foot pad which is disposed upon a second side of said at least one third selectively rotatable center beam and in close proximity to said collar portion;

5 a first selectively movable ergonomically contoured Achilles' pad which is disposed upon said first side of said at least one third selectively rotatable center beam and in close proximity to said first ergonomically contoured foot pad; and

10 a second selectively movable ergonomically contoured Achilles' pad which is disposed upon said second side of said at least one third selectively rotatable center beam and in close proximity to said second ergonomically contoured foot pad.

15 27) The apparatus of Claim 26 wherein said at least one third selectively rotatable center beam further includes a generally arcuate and ergonomically contoured buttocks pad which is disposed upon said generally spoon shaped second end of said at least one third selectively rotatable center beam.

20 28) The apparatus of Claim 27 wherein said fixed center beam is coupled to said first and said second pair of support pillars.

29) The apparatus of Claim 28 wherein said fixed center beam includes:

a first sleeve which is coupled to said second end of said fixed center beam, and which movably receives said at least one third selectively rotatable center beam;

an ergonomically contoured back pad which is coupled to said fixed center beam;

an ergonomically contoured head pad which is coupled to said fixed center beam; and

an axle portion which is generally perpendicular to said fixed center beam, and which is fixedly coupled to said first end of said fixed center beam, said axle having a first side and a second side.

30) The apparatus of Claim 29 wherein said fixed center beam further includes a first through aperture and a second through aperture, and wherein said head pad includes:

a pivot and guide bracket which is coupled to a back side of said head pad;

at least one generally arcuate projection which is integrally formed with said pivot and guide bracket, said at least one generally arcuate projection including an aperture therethrough;

at least one guide projection which is integrally formed with said pivot and guide bracket, said at least one

guide projection including a plurality of through apertures;

a first pin which is disposed through said aperture of said at least one generally arcuate projection and through 5 said first aperture of said fixed center beam; and

a second pin which is disposed through one of said plurality of apertures of said at least one guide projection and through said second aperture of said fixed center beam, effective to allow said head rest to be 10 selectively inclinable.

31) The apparatus of Claim 29 further comprising a swing arm pillar which is movably coupled to said fixed center beam at a first end, said swing arm pillar further including a second end having a second sleeve portion which 15 movably receives said at least one third selectively rotatable center beam.

32) The apparatus of Claim 31 wherein said second pair of support pillars include:

a first ergonomically contoured thigh pad which is 20 coupled to a first of said second pair of support pillars; and

a second ergonomically contoured thigh pad which is coupled to a second of said second pair of support pillars.

33) The apparatus of Claim 32 wherein said axle portion includes:

a first shock absorption joint having a first aperture therethrough, said first side of said axle portion receiving said first shock absorption joint through said first aperture;

a second shock absorption joint having a second aperture therethrough, said second side of said axle portion receiving said second shock absorption joint through said second aperture;

a first generally rectangular arm frame which is movably coupled to said first shock absorption joint, said first arm frame having a first selectively adjustable elbow sling; and

a second generally rectangular arm frame which is movably coupled to said second shock absorption joint, said second arm frame having a second selectively adjustable elbow sling.

34) The apparatus of Claim 33 wherein said first and second shock absorption joints each include:

a first extension arm having a first end and a second end, wherein said first end is coupled to said arm frames, and wherein said second end is coupled to said shock absorption joints; and

a second extension arm having a first end, a second end, and a plurality of through apertures, wherein said first end is coupled to said shock absorption joints, and wherein said pair of high tension cables are each coupled 5 to a respective one of said second extension arms through one of said plurality of apertures of said second extension arms.

35) The apparatus of Claim 34 further comprising a pair of actuation assemblies which are coupled to said rigid frame 10 and to said first selectively rotatable center beam.

36) The apparatus of Claim 35 wherein a first of said pair of actuation assemblies is disposed on a first side of said first selectively rotatable center beam, and wherein a second of said pair of actuation assemblies is disposed on 15 a second side of said first selectively rotatable center beam.

37) The apparatus of Claim 36 wherein said pair of actuation assemblies each comprise double cardan joints having a center pin which is connected to a respective one 20 of said pair of high tension cables.

38) The apparatus of Claim 37 wherein said buttocks pad further includes:

a first selectively adjustable support strap having a first attachment assembly, wherein said first selectively

adjustable support strap is coupled to and around said buttocks pad and is sized to circumscribe a user's waist; and

at least one second selectively adjustable support
5 strap having a second attachment assembly which is substantially identical to said first attachment assembly, wherein said at least one second selectively adjustable support strap is coupled to and around said buttocks pad and is sized to circumscribe at least one of a user's
10 thighs.

39) The apparatus of Claim 38 wherein said first and said second arm frames each include:

a first pair of opposing channels which receive a respective end of said elbow slings;

15 a second pair of opposing channels;

a pair of selectively adjustable wrist pads having a first padded side and a second side having a threaded aperture, wherein each of said pair of second channels receives a respective one of said pair of wrist pads; and

20 a pair of threaded posts, each of which are coupled to a respective one of said wrist pads through a respective one of said second pair of channels and into said second side.

40) The apparatus of Claim 39 wherein said first generally rectangular arm frame further includes a first handle portion, and wherein said second generally rectangular arm frame further includes a second handle portion.

5 42) A method for exercising an individual in both a tensile and a compression mode, said method comprising the steps of:

providing a first rigid frame assembly;

10 providing a second selectively rotatable frame assembly and coupling said second selectively rotatable frame to said first rigid frame assembly;

providing a seat portion and coupling said seat portion to said second selectively rotatable frame assembly;

15 providing a pair of independent and selectively rotatable handle portions; and

providing a pair of high tension cables and coupling said pair of high tension cables to a respective one of said pair of selectively rotatable handle portions;

20 causing a movement of a first handle of said pair of handles to rotate said seat portion in a first direction; and

causing a movement of a second handle of said pair of handles to rotate causes said seat portion to rotate in a second direction.

- 43) The method of Claim 42 further comprising the steps
5 of:

providing a first plurality of support pads which are each ergonomically contoured to receive and support a respective portion of a user's upper body;

- 10 providing a second plurality of support pads which are each ergonomically contoured to receive and support a respective portion of a user's lower body;

coupling said first plurality of support pads to said first rigid frame assembly;

- 15 coupling said second plurality of support pads to said second selectively rotatable frame assembly; and

allowing said first and said second plurality of support pads to receive and support said individual.

- 44) The method of Claim 43 wherein said step of providing a pair of independent and selectively rotatable handle
20 portions further comprises the steps of:

providing a first arm frame and disposing a first of said pair of handle portions within said first arm frame;

providing a second arm frame and disposing a second of said pair of handle portions within said second arm frame;

providing a first and a second selectively adjustable elbow sling;

disposing said first selectively adjustable elbow sling within said first arm frame;

5 disposing said second selectively adjustable elbow sling within said second arm frame;

allowing said individual to place a first elbow within said first elbow sling and grasp said first handle with a first hand; and

10 allowing said individual to place a second elbow within said second elbow sling and grasp said second handle with a second hand.

45) The method of Claim 44 wherein said step of providing a second plurality of support pads further includes the
15 steps of:

providing a first ergonomically contoured foot pad and disposing said first foot pad upon a first side of said second selectively rotatable frame assembly;

20 providing a second ergonomically contoured foot pad and disposing said second foot pad upon a second side of said second selectively rotatable frame assembly;

providing a first selectively movable and ergonomically contoured Achilles' pad and disposing said first Achilles' pad upon said first side of said second

selectively rotatable frame assembly and in close proximity to said first ergonomically contoured foot pad; and

providing a second selectively movable and ergonomically contoured Achilles' pad and disposing said 5 second Achilles' pad upon said second side of said second selectively rotatable frame assembly and in close proximity to said second ergonomically contoured foot pad.

46) The method of Claim 45 further comprising the steps of:

10 providing an axle portion having a first side and a second side and coupling said axle portion to said first rigid frame assembly;

providing a first shock absorption joint having a first aperture formed therethrough and causing said first 15 side of said axle portion to receive said first shock absorption joint through said first aperture;

providing a second shock absorption joint having a second aperture formed therethrough and causing said second side of said axle portion to receive said second shock 20 absorption joint through said second aperture;

providing a first extension arm having a first end and a second end;

coupling said first end of said first extension arm to said first arm frame and coupling said second end of said extension arm to said first shock absorption joint;

providing a second extension arm having a first end
5 and a second end;

coupling said first end of said second extension arm to said second arm frame and coupling said second end of said second extension arm to said second shock absorption joint;

10 providing a third extension arm having a first end, a second end, and a plurality of through apertures;

coupling said first end of said third extension arm to said first shock absorption joint;

providing a fourth extension arm having a first end
15 and a second end;

coupling said first end of said fourth extension arm to said second shock absorption joint; and

coupling a each of said pair of high tension cables to a respective one of said third and fourth extension arms
20 through one of said plurality of apertures of said third and fourth extension arms.

47) The method of Claim 46 further comprising the steps of:

providing a pair of actuation assemblies and coupling said pair of actuation assemblies to said first rigid frame and to said second selectively rotatable frame assembly.

- 48) The method of Claim 47 further comprising the steps
5 of:

coupling a first of said pair of actuation assemblies on a first side of said second selectively rotatable frame assembly; and

- coupling a second of said pair of actuation assemblies
10 on a second side of said second selectively rotatable frame assembly.

49) The method of Claim 48 further comprising the step of coupling each of said pair of high tension cables to a respective one of said pair of actuation assemblies.

- 15 50) The method of Claim 49 further comprising the steps of:

permitting said individual to isolate a first foot between said first Achilles' pad and said first foot pad;

20 permitting said individual to isolate a second foot between said second Achilles' pad and said second foot pad;

permitting said individual to selectively rotate said first arm frame, thereby actuating a first of said pair of actuation assemblies, effective to rotate said second

selectively rotatable frame assembly in a direction which is away from said first arm frame; and

permitting said individual to selectively rotate said second arm frame, thereby actuating a second of said pair 5 of actuation assemblies, effective to rotate said second selectively rotatable frame assembly in a direction which is away from said second arm frame.

51) The method of Claim 52 further comprising the steps of:

10 providing a selectively actuatable rotational retardation assembly; and

coupling said selectively actuatable rotational retardation assembly to said second selectively rotatable frame assembly, thereby allowing said individual to 15 selectively retard a rotational movement of said second selectively rotatable frame assembly.